Memorandum

To: *Diane Salkie, EPA Region 2*
Elizabeth Franklin, USACE

From: *Alex Warzinski, CDM Smith*

Date: *August 12, 2019*

Subject: *Summary of Oversight of Physical Water Column Monitoring and Equipment Servicing*
July 29–August 1, 2019
Lower Passaic River Restoration Project

On behalf of the United States Environmental Protection Agency (EPA) and the United States Army Corps of Engineers (USACE), Kansas City District, CDM Federal Programs Corporation (CDM Smith) traveled to the Lower Passaic River Study Area (LPRSA) on Monday, July 29 through Thursday, August 1, 2019 and provided field technical oversight for the first round of surface water sampling and second round of mooring servicing associated with the Physical Water Column Monitoring (PWCM) program.

Transect sampling at river miles (RMs) 12.0 and 13.5 was completed on Sunday, July 28, but CDM Smith personnel were unable to observe because of limited room on the one boat present that day. With an additional boat present Monday, July 29 onwards, CDM Smith personnel observed two transects sampled at the following RMs: RM 8.4 and RM 10.2. An additional longitudinal transect was sampled along the salt front, covering 1 mile upstream and 2 miles downstream of the 2 parts per thousand (ppt) salinity reading obtained during YSI screening. During the field event, the four above RM locations as well as the RM 15.8 mooring were serviced. The locations consist of a surface buoy and bottom mooring, except at RM 15.8, which is shallow and only has a surface buoy. Surface buoys have a YSI sonde mounted to collect conductivity, turbidity, and temperature data. The bottom moorings house a YSI sonde collecting the same parameters as well as an acoustic doppler current profiler (ADCP) to measure flow velocity. Field activities included cleaning the moorings, downloading the data, confirming equipment functionality, and redeployment. In addition, a vertical YSI profile was collected at each location, from river surface to bottom. Field activities were conducted by Ocean Surveys, Inc. (OSI) and AECOM on behalf of the Cooperating Parties Group (CPG). Anchor QEA provided field support on behalf of the CPG.

The fixed point monitoring locations are presented in Figure 1 (note this figure is from the CPG's PWCM Quality Assurance Project Plan (QAPP)). Oversight was conducted in accordance with CDM Smith's Final

A copy of the field logbook notes is provided in Attachment 2. A copy of the sample tracking log is provided in Attachment 3.

Summary of Monday, July 29, 2019 Field Activities

Personnel in Attendance

Alex Warzinski – CDM Smith
Ken Cadmus – OSI
Alexandra Allen – OSI
Kristen Durocher – AECOM
Steve Howe – AECOM
Mike Tatarelli – AECOM
Chris Pelrah – Anchor QEA

All personnel met at the 1 Madison Road boat dock in Rutherford, New Jersey. OSI and AECOM rode in OSI's boat, which was equipped with equipment for sampling. Anchor QEA and CDM Smith drove to Frank Vincent Marina in Kearny, New Jersey to launch the support boat for observation and oversight. AECOM and OSI had previously completed the transect sampling at RM 12.0 and RM 13.5 on Sunday, July 28; CDM Smith did not provide field oversight on Sunday, July 28 because the support boat was not available that day.

All personnel mobilized to RM 10.2 to begin collecting surface water samples on the ebb tide. Seven locations (location 1 through location 7, from left to right across the river when facing upstream) were occupied for purposes of collecting water quality data or collecting water quality data and surface water samples for analysis. For the duration of the transect, flow data was obtained from a boat-mounted ADCP. Vertical YSI profiles were collected from all seven positions. Samples were collected from positions 2, 4, and 6 at two depth intervals (surface and bottom), in accordance with the approved CPG QAPP. For all sample locations, the bottom depth interval was sampled first, following a vertical YSI profile from surface to bottom. Sample containers were filled directly from the free-flowing outlet of the peristaltic pump.

All personnel mobilized to RM 8.4 to begin collecting surface water samples on the ebb tide. Samples and YSI profiles were collected as described above. Kristen Durocher informed the crew that all RM 8.4 locations had been shifted because the locations, as marked in the CPG QAPP, extended out of the water and into the treeline. AECOM will provide final coordinates of all transect locations at the conclusion of PWCM.

Following the RM 8.4 transect completion, all personnel mobilized downstream to preliminarily locate the 2 ppt salt front to be followed during the following day's longitudinal transect sampling. After locating the salt front, all personnel mobilized back to the 1 Madison Road boat dock for lunch and to wait for the tide to shift to flood.

When the tide shifted to flood, all personnel mobilized to RM 10.2 to collect surface water samples on the flood tide. Samples and YSI profiles were collected as described above. At 15:20, the 19C-CE02-T102-P4AS-CDM split sample was collected (from the top sampling depth at location 4 along the RM 10.2 transect). OSI dropped off Kristen Durocher at a nearby boat ramp.

All personnel mobilized to RM 8.4 to collect surface water samples on the flood tide. Since Kristen Durocher was no longer on OSI's boat, there was room for Alex Warzinski to come aboard. Samples and YSI profiles were collected as described above. At 16:13, the 19C-CE02-T084-P2BS-CDM split sample was collected (from the bottom sampling depth at location 2 along the RM 8.4 transect) and at 16:38, the 19C-CE02-T084-P6BS-CDM split sample was collected (from the bottom sampling depth at location 6 along the RM 8.4 transect).

Following the RM 8.4 transect flood tide sampling, all personnel mobilized back to the 1 Madison Road boat dock and secured the boats for the evening.

Summary of Tuesday, July 30, 2019 Field Activities

Personnel in Attendance

Alex Warzinski – CDM Smith
Ken Cadmus – OSI
Alexandra Allen – OSI
Steve Howe – AECOM
Mike Tatarelli - AECOM
Chris Pelrah – Anchor QEA

All personnel met at the 1 Madison Road boat dock in Rutherford, New Jersey. OSI and AECOM rode in OSI's boat, which was equipped with equipment for sampling. Anchor QEA and CDM Smith rode in a support boat for observation and oversight. All personnel mobilized downstream to identify the 2 ppt salt front.

The 2 ppt salt front was located approximately at the bridge near the Red Bull Arena. Both boats mobilized 2 miles downstream to begin the longitudinal transect during the ebb tide. Sample collection and vertical YSI profiles were conducted, with the most downstream location labeled location 1. Samples and profiles were collected every quarter mile to 1 mile above the 2 ppt salt front in accordance with the CPG QAPP. At 09:58, the 19C-CE04-TSAL-P1AS-CDM split sample was collected (from the top sampling depth at location 1 along the longitudinal transect). At 10:10, the 19C-CE04-TSAL-P2BS-CDM split sample and 19C-CE04-TSAL-P2BS-CDM-100 duplicate split sample were collected (from the bottom sampling depth at location 2 along the longitudinal transect). At 10:58, the 19C-CE04-TSAL-P5AS-CDM split sample was collected (from the top sampling depth at location 5 along the longitudinal transect). At 11:55, the 19C-CE04-TSAL-P9BS-CDM split sample was collected (from the bottom sampling depth at location 9 along the longitudinal transect). Upon completion of the ebb tide

longitudinal transect, all personnel mobilized to near Frank Vincent Marina to break for lunch and wait until the flood tide.

All personnel mobilized to relocate the 2 ppt salt front during flood tide. Due to the tide (and salt front) moving upriver during the flood tide, the flood tide longitudinal transect was collected from upstream to downstream. Location 1 was still identified as the most downstream location. The reverse sampling approach was discussed as being consistent with the goal of collecting peak turbidity data along the transect. The high turbidity near the salt front would be bracketed regardless of sampling directions, and sampling the opposite direction of salt front movement ensures that the salt front will be caught during sampling (the salt front moves at roughly the same rate the crew can purge and sample). At 16:48, the 19C-CE02-TSAL-P8BS-CDM split sample was collected (from the bottom sampling depth at location 8 along the longitudinal transect). At 17:49, the 19C-CE02-TSAL-P4AS-CDM split sample was collected (from the top sampling depth at location 4 along the longitudinal transect). Following collection of the flood tide longitudinal transect, all personnel mobilized back to the 1 Madison Road boat dock and secured the boats for the evening.

Summary of Wednesday, July 31, 2019 Field Activities

Personnel in Attendance

Alex Warzinski – CDM Smith
Ken Cadmus – OSI
Alexandra Allen – OSI
Steve Howe – AECOM
Chris Pelrah – Anchor QEA

All personnel met at the 1 Madison Road boat dock in Rutherford, New Jersey. OSI and AECOM rode in OSI's boat, which was equipped with a winch and the tools for servicing. Anchor QEA and CDM Smith rode in a separate boat for observation and oversight.

Both crews mobilized to RM 13.5. OSI began by collecting a vertical YSI profile at RM 13.5. OSI then began servicing the RM 13.5 buoy-mounted YSI. The YSI was removed and cleaned, had its data downloaded, had its wiper confirmed functional, and was compared against the calibrated boat YSI. The comparison was good (here and elsewhere in this oversight summary report, a good comparison means that measurements from the deployed YSI did not show obvious data quality issues relative to the calibrated boat YSI), so the YSI was redeployed.

The RM 13.5 bottom mooring locator buoy was released and the mooring was retrieved. The bottom-mounted YSI was removed and cleaned, had its data downloaded, had its wiper confirmed functional, and was compared against the calibrated boat YSI. The comparison was good. The ADCP was removed, cleaned, had its data downloaded, and its four sensors were confirmed to be functional. The ADCP battery was replaced and its compass was recalibrated. Both the ADCP and YSI were remounted, and the

locator buoy was reset. The mooring was then lowered back to its original position using the global positioning system (GPS) located above the winch arm. A second vertical YSI profile was collected at RM 13.5 to bracket the data.

Both crews mobilized to RM 15.8. OSI began by collecting a vertical YSI profile at RM 15.8. OSI then began servicing the RM 15.8 buoy-mounted YSI. The YSI was removed and cleaned, had its data downloaded, had its wiper confirmed functional, and was compared against the calibrated boat YSI. The comparison was good, so the YSI was redeployed. A second vertical YSI profile was collected at RM 15.8 to bracket the data.

Following the RM 15.8 servicing, Alex Warzinski was dropped at the 1 Madison boat dock to complete packing and shipment of all CDM Smith split samples collected earlier during PWCM. The remaining crew on the water then mobilized to RM 12.0 to complete the day's servicing task.

Summary of Thursday, August 1, 2019 Field Activities

Personnel in Attendance

Alex Warzinski – CDM Smith
Ken Cadmus – OSI
Alexandra Allen – OSI
Steve Howe – AECOM
Chris Pelrah – Anchor QEA

All personnel met at the Frank Vincent Marina boat ramp in Kearny, New Jersey. OSI and AECOM rode in OSI's boat, which was equipped with a winch and the tools for servicing. Anchor QEA and CDM Smith rode in a separate boat for observation and oversight.

Both crews mobilized to RM 8.4. OSI began by collecting a vertical YSI profile at RM 8.4. OSI then began servicing the RM 8.4 buoy-mounted YSI. The YSI was removed and cleaned, had its data downloaded, had its wiper confirmed functional, and was compared against the calibrated boat YSI. The comparison was good, so the YSI was redeployed.

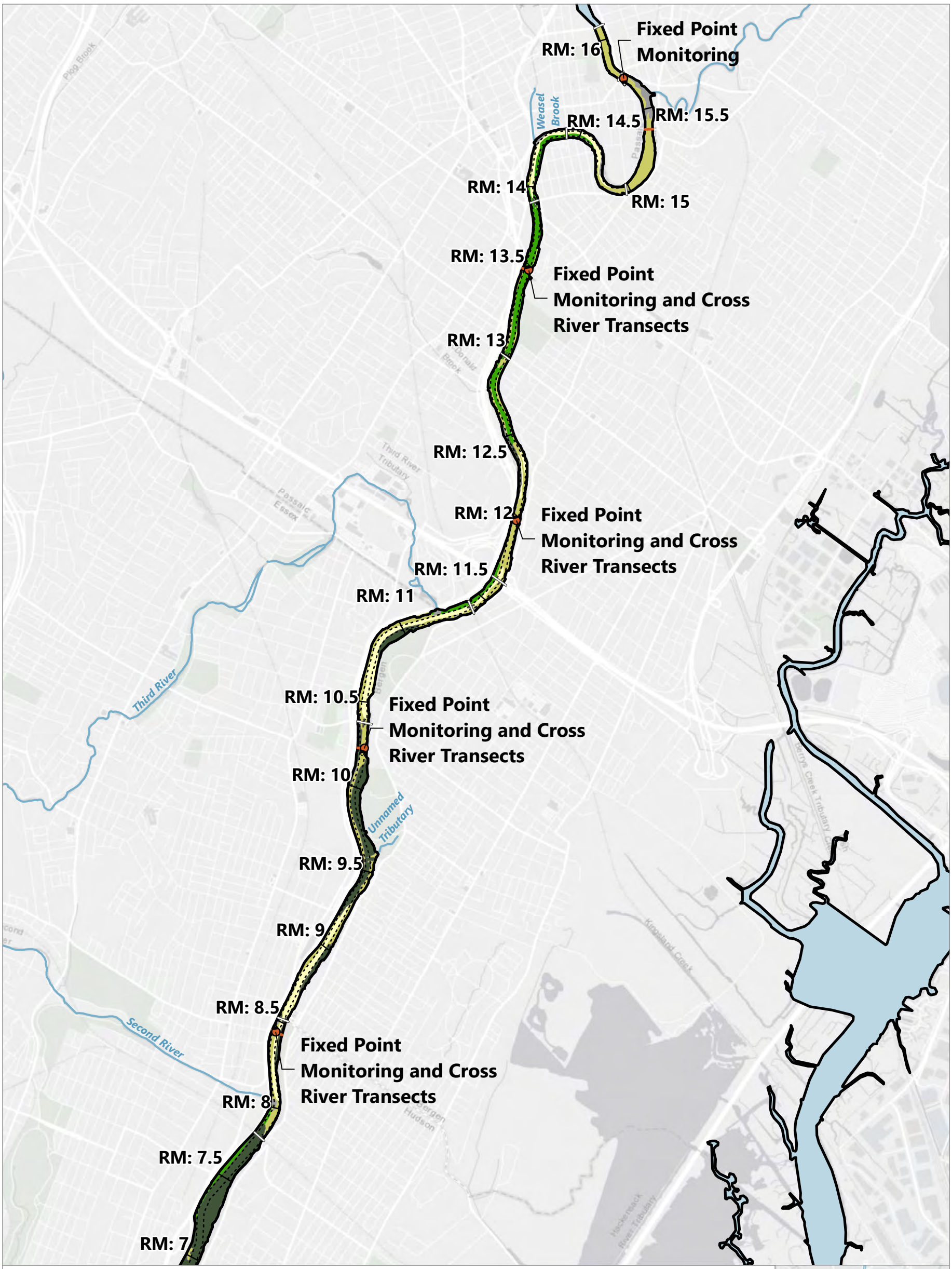
The RM 8.4 bottom mooring locator buoy was released, and the mooring was retrieved. The bottom-mounted YSI was removed and cleaned, and had its data downloaded, had its wiper confirmed functional, and was compared against the calibrated boat YSI. The comparison was good. The turbidity sensor had accumulated some grime under the wiper, so the wiper head was replaced. The ADCP was removed, cleaned, had its data downloaded, and its four sensors were confirmed to be functional. The ADCP battery was replaced and its compass was recalibrated. Both the ADCP and YSI were remounted, and the locator buoy was reset. The mooring was then lowered back to its original position using the GPS located above the winch arm. A second vertical YSI profile was collected at RM 8.4 to bracket the data.

Both crews mobilized to RM 10.2. OSI began by collecting a vertical YSI profile at RM 10.2. OSI then began servicing the RM 10.2 buoy-mounted YSI. The YSI was removed and cleaned, had its data downloaded, had its wiper confirmed functional, and was compared against the calibrated boat YSI. The comparison was good, so the YSI was redeployed.

The RM 10.2 bottom mooring locator buoy was released, and the mooring was retrieved. The bottom-mounted YSI was removed and cleaned, had its data downloaded, had its wiper confirmed functional, and was compared against the calibrated boat YSI. The comparison was good. The wiper was replaced proactively. The ADCP was removed, cleaned, had its data downloaded, and its four sensors were confirmed to be functional. The ADCP battery was replaced and its compass was recalibrated. Both the ADCP and YSI were remounted, and the locator buoy was reset. The mooring was then lowered back to its original position using the GPS located above the winch arm. A second vertical YSI profile was collected at RM 10.2 to bracket the data.

All personnel returned to the Frank Vincent Marina boat ramp, removed the boats from the river, and departed the site.

Figure 1



Publish Date: 2019/05/21, 10:59 AM | User: dbaker
Filepath: \\Boston1\jobs\Passaic_CPG\DOCUMENTS\2019\Current_Conditions_Physical_WC_QAPP\source\RM7.8_to_DD_Map_monitoring_locations_FullExtent.mxd

Figure 1
Current Conditions Monitoring Locations
Field Sampling Plan Addendum
Current Conditions Monitoring Program - Physical Water Column Monitoring
Lower Passaic River Restoration Project

Attachment 1

Photographs of Field Activities

Photograph 1: Vertical YSI profile being performed at RM 10.2 during ebb tide.

7/29/2019

Photograph 2: Sampling being performed on RM 10.2 transect during ebb tide.

7/29/2019

Photograph 3: Sampling being performed on RM 8.4 transect during ebb tide.

7/29/2019

Photograph 4: Sampling being performed on RM 10.2 transect during flood tide.

7/29/2019

Photograph 5: Sampling being performed on RM 8.4 transect during flood tide.

7/29/2019

Photograph 6: Locating the salt front during ebb tide.

7/30/2019

Photograph 7: Collecting split sample along longitudinal transect during ebb tide.

7/30/2019

Photograph 8: Collecting sample along longitudinal transect during flood tide.

7/30/2019

Photograph 9: Collecting split sample along longitudinal transect during flood tide.

7/30/2019

Photograph 10: Retrieving RM 13.5 buoy for servicing.

7/31/2019

Photograph 11: Cleaning RM 13.5 top YSI sonde.

7/31/2019

Photograph 12: Comparison of RM 13.5 bottom YSI sonde with calibrated boat YSI sonde.

7/31/2019

Photograph 13: Replacing RM 13.5 ADCP battery.

7/31/2019

Photograph 14: Retrieving and cleaning RM 8.4 mooring.

8/1/2019

Photograph 15: RM 8.4 bottom YSI sonde wiper replaced.

8/1/2019

Photograph 16: Replacing RM 8.4 ADCP battery.

8/1/2019

Photograph 17: Cleaning RM 8.4 bottom YSI sonde.

8/1/2019

Attachment 2

Field Logbook

Location Rutherford, NJ Date 7/19/19

Project / Client Lower Passaic River / USACE
Diamond Alkali OU4

Retrieving RM 10.2S buoy. Cleaning YSI w/ Passaic River water + downloading data. Comparing sonde w/ boat sonde. Downloading data. Comparability is good. Wiper confirmed functional, so sonde being redeployed.

1205 Buoy released. Lifting RM 10.2S mooring for servicing. Cleaning w/ passaic River water. YSI wiper confirmed functional. Comparing bottom sonde w/ boat sonde + downloading data. Sonde comparability is good. ADCP checked for functionality + data downloaded. YSI + ADCP reinstalled for deployment.

1320 Redeploying RM 10.2S mooring.

1330 Collecting vertical profile @ RM 10.2S

1400 Back @ 1 Madison Rd. docks. Unloading equipment and getting boats prepped for removal tomorrow (Con Smith won't be onsite for boat removal).

1445 Alex Warinski offsite.

AFW 7/19/19

Location Rutherford, NJ Date 7/29/19

Project / Client Lower Passaic River / USACE
Diamond Alkali OU4

0700 Meet Kristen Durocher (AECOM) @ AECOM's support trailer @ 1 Madison St. Waiting on Anchor QEA so that we (AFW) can mob to the boat ramp in Kearney.

0720 TBS briefing @ AECOM trailer w/ Steve Howe (AECOM) Chris Petrich (Anchor QEA) on site as well. prepping to launch boat. Mike Howe (AECOM) will also assist w/ sampling today.

0810 Mob w/ Chris to Frank Vincent Park boat ramp.

0815 Mobilizing to RM 10.2 to meet w/ OSI and AECOM staff (x3)

OSI/AECOM on an equipment blazer @ the docks prior to meeting with us. Alexandra Allen + Ken Cudmore performing the work for OSI today.

0900 Collecting transect @ RM 10.2 left → right (facing upstream). At each transect, continuous boat mounted ADCP, discrete vertical YSI transects

AFW 7/29/19

Location Rutherford NJ Date 7/29/19

Project / Client Lower Passaic River / USACE

Diamond Alkali OU4

at positions 1 through 7, and samples collected top and bottom @ positions 2, 4, 6. Current condition is ebb

0945 RM 10.2 transect and sampling complete. Mobilizing to RM 8.4 A field duplicate was collected @ the location 6 surface sample @ ~~transect~~ RM 10.2.

1005 Collecting ADCP transect @ RM 8.4 Beginning YSI vertical transects and sample collection (from positions 1 to 7). Samples have been collected with the bottom depth first.

1045 Completed RM 8.4 transect. Kristen Durocher (AECOM) informed us that all the RM 8.4 stations were shifted river west because the location as marked was going up into the treeline. AECOM will provide the coordinates.

1055 Mobilizing downstream to attempt to locate the salt front for tomorrow. Low tide will occur ~ 13:30 today, so we're waiting for an 1.5 hr

(AW) 7/29/19

Location Rutherford, NJ Date 7/29/19

Project / Client Lower Passaic River / USACE

Diamond Alkali OU4

past that time to get a flood transect.

1130 Mobilizing back to dock after locating upper salt near Red Bull Arena. Waiting to sample @ ~ 15:00 this afternoon

1230 Back @ dock. Breaking for lunch and preparing to be back on the water this afternoon for flood sampling.

1430 Back out on water. Plan to take 3 split samples this afternoon. Confirmed this event is designated as "19C"

1455 Collecting ADCP @ RM 10.2 transect during flood stage.

1500 Collecting vertical YSI transects and collecting samples @ 2, 4, 6 positions.

*1520 19C-(EDP)-T102-AS-COM split collected.

1540 Transect @ RM 10.2 complete. OSI dropping off Kristen Durocher @ boat ramp, then mob to RM 8.4.

1600 Begin RM 10 ~~to~~ RM 8.4 ADCP transect 2 (Tuckwaramba) joined OSI's boat for this transect (now that Kristen is off).

(AW) 7/29/19

Location Rutherford, NJ Date 7/29/19

Project / Client Lower Passaic River / USACE

Diamond Alkali OU4

1610 Collecting vert. YSI transects and sample #1

~~1613~~ 19C ~~- T084 (APW) - (APW)~~ CE02 - T084 -

~~1638~~ PC65 - COM collected

(APW) → MC - CE02 - T084 - PC65 - COM collected

1645 mobilizing back to dock.

1725 Back to dock. Prepping bounts / samples for departure.

1740 Alex Warzinski off site. Planned 730 start tomorrow.

APW 7/29/19

(APW) 30

Location Rutherford, NJ Date 7/29/19

Project / Client Lower Passaic River / USACE

Diamond Alkali OU4

0730 Alex Warzinski (Con Smith) on site. Meet w/ Steve Howe + Rich Purdy (AECOM) @ job trailer. Prep sample containers. Steve Howe proceed a safety briefing focused on working in the heat. Ken Cadwell and Alexandra Allen (OSE) Chris Petrak (Anchor QEA), Steve Howe and Mike Tedesco (AECOM) on water today. Steve dropping truck downstream

0835 Mob downstream to identify 2ppt salt front.

0915 Pick up Steve Howe where he left the AECOM truck (planned break over between tides).

0930 Bridge by Red Bull Arena is approx. 2 ppt salt front. Mobilizing 2 mile downstream to begin sampling. Prepping ADCP and GPS assembly.

0950 Beginning sample collection for ebb tide. Loc 1 in the salt front. Sampling tubes is being purged ~1 min (vs ~30 sec yesterday) due to greater ~~transect~~ (APW) channel depth

APW 7/30/19

Location Rutherford, NJ Date 7/30/19

Project / Client Lower Passaic River / USACE
Diamond Alkali OU4

0958 Sample 19C-CE02 (AFW) CE04-TSAL-P1AS-COM collected.

1010 {Sample 19C-CE04-TSAL-P2BS-COM collected
Sample 19C-CE04-TSAL-P2DS-COM-100 (duplicate) collected

1058 Sample 19C-CE04-TSAL-PA (AFW) PSAS-COM collected

1155 Sample 19C-CE04-TSAL-P9DS-COM collected.

1300 Ebb flow salt front transect complete.

1345 Break for lunch. Planning to depart for 2nd (flood) transect @ 15:00. Coordinate w/ Andy Bullard (COM Smith) to ship samples tomorrow afternoon.

1445 Prepping to begin flood tide transect. Keeping an eye on some local T-storms

1500 Mobilize to locate 2ppt salt front Due to tide moving upriver, AECOM is considering sampling from N to S (against the tide). Anchor QEA confirmed that primary goal of the transects is locating peak turbidity (presumably at the salt front) so this approach should still bracket the desired data.

1540 Begin sampling from upstream location

AFW 7/30/19

Location Rutherford, NJ Date 7/30/19

Project / Client Lower Passaic River / USACE
Diamond Alkali OU4

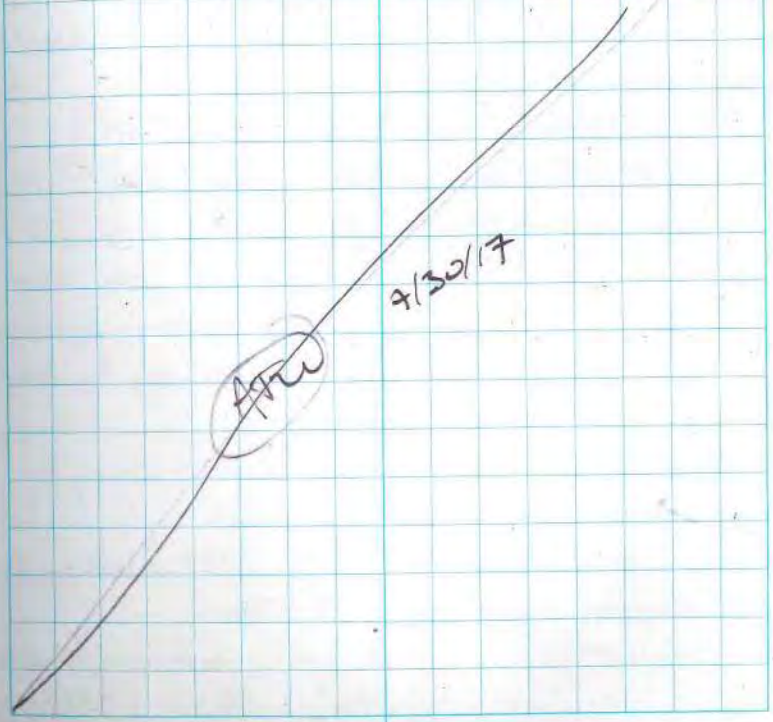
1648 19C-CE02-TSAL-P8BS-COM collected

1749 19C-CE02-TSAL-P4AS-COM collected

1835 Flood tide salt front transect complete. Packing up equipment and returning to dock.

1945 Back @ dock. Prepping boats for evening.

2005 Alex Marcinski off site. 0700 meet time tomorrow



Location Rutherford, NJ Date 7/31/19

Project / Client Lower Passaic River / USACE
Diamond Alkali OU4

0700 Alex Warzinski (Clean Earth) on site
Prepping boats for servicing.
Ken Cadmus + Alexander Allen (OSI),
Chris Pelrah (Anchor QEA) + Steve Howie (AECOM)
on site. AECOM holds H&S briefing focused
on heavy equipment / weather. T-storms expected
this afternoon.
0800 Leaving dock + mobilize to RM 13.5 buoy.
0810 Vertical YSI profile @ RM 13.5 and
retrieving top buoy for cleaning + data download.
Comparison against boat YSI (calibrated).
0845 Retrieving RM 13.5 bottom mooring after
redeploying buoy. Clean sonde + ADCP + data
download. Comparison vs boat YSI. Top and
bottom ~~YSI's~~ ADCP YSI's have good comparison.
Checking voltage on ADCP battery. Replacing
w/ a fresh battery. Recalibrating the compass.
ADCP confirmed functional.
1010 Redeploying RM 13.5 bottom mooring
and mobilizing to RM 15.8 buoy.
1040 Retrieve RM 15.8 buoy. Clean YSI + download data.
Comparison against boat YSI is good.
1115 Redeploying RM 15.8 buoy. Returning to dock
to ship coolers (OSI, Anchor QEA, AECOM
AEW 7/31/19

Location Rutherford, NJ Date 7/31/19

Project / Client Lower Passaic River / USACE
Diamond Alkali OU4

staying out on water to begin servicing
RM 12.0 buoy/mooring). Vertical YSI profiles
have been collected before and after servicing
each station.
1140 Alex Warzinski off the water to
manage samples.
1230 Alex Warzinski off site

4/31/19

AEW

Location Rutherford, NJ Date 8/1/19

Project / Client Lower Passaic River / USACE

Diamond Alkali OU4

0600 Alex Warzynski @ Frank Vincent Marina waiting for OSI and AECOM / Anchor QEA to mobilize south from the 1 Madison St. dock(s)

0700 Meet Steve Howe (AECOM) + Liev Cadmus / OSI ~~and~~ (ATW) at marina. Steve informs me the RM 12.0 ADCP battery was replaced yesterday (and ADCP re-calibrated).

0720 On Anchor QEA boat w/ Chris Pelrah. Mobilizing to RM 8.4 (ATW) 10.2 buoy.

0735 vertical YSI profile and retrieving buoy. Cleaning YSI + data download. Comparison against boat YSI good. Redeploying buoy

0805 Retrieving mooring to clean sensors and download data. Bottom YSI wiper is functional, but the lens on the turbidity sensor has accumulated some dirt (may give artificially high turbidity). Replacing wiper head. Comparing against boat YSI. Replacing battery in ADCP. YSI comparison is good. Recalibrating ADCP compass.

0910 Redeploying RM bottom mooring.

0930 Retrieving RM 10.2 buoy. Cleaning YSI, data download, and comparison w/ boat YSI.

(ATW) 8/1/19

Location Rutherford, NJ Date 8/1/19

Project / Client Lower Passaic River / USACE

Diamond Alkali OU4

vertical YSI profile. YSI comparison w/ boat YSI good. wiper confirmed functional

1000 RM 10.2 buoy redeployed. Retrieving the bottom mooring. Cleaning sensors and downloading data. Comparing YSI w/ boat YSI. Swapping wiper on the bottom YSI (proactively). Replacing batt. (ATW) ADCP battery and recalibrating. YSI comparison is good.

1110 Redeploying RM 10.2 bottom mooring. Vertical YSI profile collected.

1115 Mobilizing back to Frank Vincent marina

1125 Collecting another YSI profile @ RM 8.4.

1135 back at Frank Vincent marina. Transferring equipment and boats out of the water.

1150 OSI's + Anchor QEA's boats out of water.

1230 All off site

8/1/19

ATW

Attachment 3

Sample Tracking Log

SAMPLE TRACKING LOG
Lower Passaic River Oversight

Subcontract Ref. No.: —
CLP Case No: _____

Organic CLP Lab: —
Inorganic CLP LAB: —

Subcontract Lab 1: Katahdin
Subcontract Lab 2: _____

SAMPLE ID	SAMPLE DATE	SAMPLE TIME	MATRIX	DEPTH (feet)	CLP NO.	ORGANIC CLP NO.	INORGANIC CLP NO.	SUBCONTRACT ANALYSIS	QA/QC
19C-CE02-T102-P4AS-CDM	7/29/19	15:20	SW	A	—	—	—	SSC, POC, DOC	
19C-CE02-T084-P2BS-CDM	7/29/19	16:13	SW	B	—	—	—	SSC, POC, DOC	
19C-CE02-T084-P6BS-CDM	7/29/19	16:38	SW	B	—	—	—	SSC, POC, DOC	
19C-CE02-TSAL-P4AS-CDM	7/30/19	17:49		A	—	—	—		
19C-CE02-TSAL-P8BS-CDM		16:48		B	—	—	—		
19C-CE04-TSAL-P1AS-CDM		09:58		A	—	—	—		
19C-CE04-TSAL-P2BS-CDM		10:10		B	—	—	—		
19C-CE04-TSAL-P2B2-CDM-100		10:10		B	—	—	—		DUP
19C-CE04-TSAL-P5AS-CDM		10:58		A	—	—	—		
19C-CE04-TSAL-P9BS-CDM		11:55		B	—	—	—		

ANALYSIS SUMMARY: SSC by ASTM D3977, POC by ASTM D6316, DOC by EPA 9060A.
POC/DOC are collected in same sample container and lab-filtered.

REV 5/01